

Appln. No. 09/924,312
Amendment After Final Rejection dated May 28, 2003
Response to Office Action dated January 28, 2003

REMARKS

Claims 16-28 and 30-34 are pending in this application and stand rejected.

Claims 16-20, 25 and 30 are independent.

By this Amendment Applicants seek to amend claims 16, 20, 23, 25, 26 and 30-32.¹ Upon entry of this Amendment, claims 16-20, 25 and 30 will remain independent.

It is respectfully submitted that because the claim amendments involve issues already considered by the Examiner, this Amendment can be entered without any substantial new work. It is further submitted that all outstanding rejections are overcome by the arguments set forth below.

The Examiner is thanked for the personal interview conducted on May 13, 2003. The changes and arguments presented herein were discussed with the Examiner during that interview, and it is respectfully submitted that this application distinguishes over the art of record at least for the reasons presented at that meeting. For example, claim 16 now includes in the body of the claim the step of providing a container made with material that increases in wettability when exposed to ultraviolet radiation, as the Examiner suggested be done to overcome the cited art. Claims 20, 25 and 30 now speak of reducing pressure, rather than depressurizing and clarify that this reduction in pressure decreases gas in the ink, again, in accordance with the Examiner's recommendation to avoid the art of record. Various other minor changes of form have been made.

¹ This Amendment has been prepared utilizing the format prescribed in the Office of Patent Legal Administration - Pre-OG Notice entitled "Amendments in a Revised Format Now Permitted", signed by the Deputy Commissioner for Patent Examination Policy on January 31, 2003 and available on the U.S. Patent and Trademark Office Website.

Appln. No. 09/924,312
Amendment After Final Rejection dated May 28, 2003
Response to Office Action dated January 28, 2003

**The Rejections Under
35 U.S.C. § 102**

Claim 16 was rejected under 35 U.S.C. § 102(a) as being anticipated by Japanese Laid-Open Patent Appln. No. 10-258517² to Hideaki. Applicants respectfully traverse this rejection and submit the following argument in support thereof.

As explained during the personal interview, this application is a division claiming the priority of Application 09/041,890, filed on March 12, 1998. That means this application is entitled to an effective filing date of March 12, 1998.

Because this application has an effective filing date of March 12, 1998, Haigo (Hideaki) is not prior art. Haigo (Hideaki) was published on September 29, 1998, which is after this application's March 12, 1998, effective filing date.

The Examiner specifically agreed during the May 13 personal interview that, in view of the earlier effective filing date of this application, this rejection was overcome.

Since Haigo (Hideaki) is not prior art, this rejection must be withdrawn.

Incidentally, it should be noted that Haigo (Hideaki) does not suggest treating any portion of an ink cartridge with ultraviolet light, much less treating at least a portion of an ink supply port inlet with ultraviolet radiation to improve the wettability of the treated portion, as claimed.

For all the foregoing reasons, favorable reconsideration and withdrawal of this rejection are respectfully requested.

² Although Hideaki is identified at page 2 of the Office Action as JP410258517A, it should be noted that the Japanese reference itself bears publication no. 10-258517. Also, it is believed that the inventor's last name is actually Haigo. This is the second time Applicants have called attention to these points.

Appln. No. 09/924,312
Amendment After Final Rejection dated May 28, 2003
Response to Office Action dated January 28, 2003

**The Rejections Under
35 U.S.C. § 103**

Claims 16, 20-28 and 30-34 were rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 5,790,158 to Shinada et al. in view of Japanese Laid-Open Patent Appln. No. 7-164638 to Fuji Electric³. Applicants respectfully traverse this rejection and submit the following arguments in support thereof.

Applicants' invention, as described in claim 16, is directed to a method of manufacturing an ink cartridge by providing a container body that includes material whose wettability increases when the material is exposed to ultraviolet radiation and also an ink supply port shaped to receive an ink supply needle and having an inlet, formed in the container body, for use in an ink jet recorder. This is done by treating part of the ink supply port inlet with ultraviolet radiation to improve the wettability of the treated portion.

As described in claim 20, Applicants' invention also involves a method of manufacturing an ink cartridge by providing a container body including a chamber for accommodating ink therein, an ink supply port communicating with the chamber, and an opening, sealing the ink supply port, bonding a cover to the opening of the container body, injecting ink into the chamber, and reducing the pressure within the ink cartridge a first time to decrease an amount of any gas therein. The method also involves sealing a portion of the cover after the reducing step and then reducing the pressure within the ink cartridge a second time to

³ As previously pointed out, although the Office Action refers to JP0315660, that is the application number for this reference. The publication number for the document by which it should be identified is 7-164638.

Appl. No. 09/924,312

Amendment After Final Rejection dated May 28, 2003

Response to Office Action dated January 28, 2003

decrease further the amount of any gas therein, and sealing the remainder of the cover after the second reducing step.

Also, claim 25 describes a method of manufacturing an ink cartridge by providing a container including a chamber for accommodating ink therein, and an ink supply port and an ink injection port, both communicating with the chamber, sealing the ink supply port with a gas permeable and moisture impermeable film, injecting ink into the chamber through the ink injection port, and reducing a pressure within the chamber to decrease an amount of any gas therein. Other steps include sealing the ink injection port after reducing the pressure within the chamber, inserting the sealed container into a bag having an opening, and sealing the opening of the bag in an environment having reduced pressure.

Applicants' invention, as set out in claim 30, involves a method of manufacturing an ink cartridge for use in an ink jet recorder through the steps of providing a container including a chamber for accommodating ink therein, and an ink injection port communicating with the chamber, injecting ink into the chamber through the ink injection port, thereafter reducing the pressure within the chamber to decrease an amount of any gas therein, thereafter sealing the ink injection port, and then packing the container in a bag.

Shinada teaches that an ink cartridge is first filled with ink under low pressure (col. 6, lines 42-50), rather than filling the ink cartridge and then reducing the pressure to remove gas therein. As the Examiner also admits, Shinada does not teach treating a portion of the ink port with UV radiation to improve its wettability (Office Action, p. 4, ¶ 1).

Appln. No. 09/924,312
Amendment After Final Rejection dated May 28, 2003
Response to Office Action dated January 28, 2003

It also should be noted that Shinada does not reduce pressure within the ink cartridge a first time and then, after part of the ink cartridge cover is sealed, reduce the pressure within the ink cartridge a second time to decrease further the gas therein, as is taught in claim 20.

Nor does Shinada even suggest injecting ink into a chamber through an ink injection port and then reducing the pressure within the chamber to decrease the amount of gas therein, followed by sealing the ink injection port and inserting the sealed container into a bag having an opening, and sealing the opening of the bag in an environment having reduced pressure, as is set out in claim 25.

Shinada also does not teach injecting ink into a chamber through an ink injection port and thereafter reducing the pressure within the chamber to decrease any gas therein, followed by sealing of the ink injection port and packing the container in a bag, as in claim 30.

Shinada, which teaches the ink is filled into the container under reduced pressure, does not suggest the present invention, which provides for filling the container and later reducing the pressure in the container so that gas in the liquid held in the container can escape. Filling a container under reduced pressure can be complicated; filling the container at ambient pressure is not. Thus, the present invention offers benefits over the teachings of Shinada.

Although this rejection then looks to the Fuji Electric reference to remedy Shinada's deficiencies, Fuji Electric does not teach an ink tank as claimed. The structure depicted in the drawing of Fuji Electric, which is an exploded view, is a damper structure that absorbs pressure fluctuations in ink. The structure does not have an ink supply port leading to an ink jet printer, much less an ink supply port shaped to receive an ink supply needle, as is

Appln. No. 09/924,312
Amendment After Final Rejection dated May 28, 2003
Response to Office Action dated January 28, 2003

claimed. Rather, Fuji Electric's damper is placed somewhere in the fluid path of an ink jet printer.

Fuji Electric also does suggest this invention because Fuji Electric not treat with UV radiation just a portion of an ink supply port, as set out in claim 16; rather, Fuji Electric treats the entire base 1 and diaphragm 2 of the damper.

Further, Fuji Electric does not suggest filling an ink tank and reducing the pressure therein in the manner claimed, meaning Fuji Electric does not remedy Shinada's own deficiencies in this regard.

For all the foregoing reasons the claimed invention is not suggested by the prior art. Accordingly, favorable reconsideration and withdrawal of this rejection is respectfully requested.

Claims 17-19 were rejected under 35 U.S.C. § 103 as being unpatentable over Hideaki.

As noted above, Hideaki is not a reference because its publication date falls after the effective filing date of this application. Accordingly, since Hideaki is not prior art, this rejection must be withdrawn.

CONCLUSION

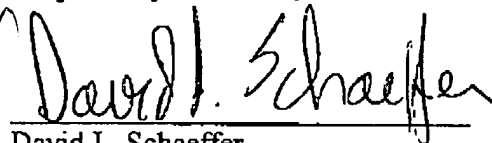
Applicants respectfully submits that all outstanding objections and rejections have been addressed and are now either overcome or moot. Applicants further submit that all claims pending in this application are patentable over the prior art. Favorable reconsideration and withdrawal of those rejections and objections is respectfully requested.

Appln. No. 09/924,312
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In view of the foregoing revisions and remarks, Applicants respectfully request entry of this amendment and submit that entry of this amendment will place the present application in condition for allowance. It is further submitted that entry of this amendment can be approved by the Examiner consistent with Patent and Trademark Office practice, since the changes it makes should not require a substantial amount of additional work by the Examiner. It is believed that the changes presented in this amendment either address matters of form or issues that the Examiner has previously considered.

Favorable consideration and prompt allowance of this application is respectfully requested. In the event that there are any questions, or should additional information be required, please do not hesitate to contact Applicants' attorney at the number listed below.

Respectfully submitted,



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